Alliance takes on Asia

Bede, a supplier of X-ray metrology tools for the semiconductor industry, has formed an alliance with a semiconductor equipment distributor based in Taiwan. Scientech becomes the sole distributor for Bede's BedeMetrix-F, BedeMetrix-L and BedeScan metrology tools in Taiwan and China.

Bede's BedeMetrix-F

Scientech was established in 1979 as the first semiconductor equipment distributor in Taiwan, and is now a supplier of equipment, material, instruments, and outsourcing services to the semiconductor industry. In addition to the company headquarters in Taiwan, Scientech has offices in major science parks in Taiwan and China, including Hsin Chu and Pudong. Scientech operates additional offices in Singapore and the United States.

For more information visit: www.scientech.com.tw

Plant acquisition

Matheson Tri-Gas Inc has purchased six air separation plants and related assets from Air Liquide. The transaction includes liquid gas and distribution operations, and certain pipeline assets located in the southern and western parts of the USA.

Hiroshi Taguchi, President of Taiyo Nippon Sanso Corporation (parent company of Matheson Tri-Gas, Inc.), said: "This acquisition is consistent with Taiyo Nippon Sanso's focused strategy to expand our presence in the US market. The conditions were fully satisfactory for both parties. Our US management team has successfully carried out this transaction, and is skilfully managing both the transition and integration plans. The acquisition will solidify our position in the South, and will further establish our presence in the West, where we hope to capture more electronic, medical and packaged gas business through our expanded portfolio of gas and equipment products."

Facilities acquired: Irwindale, California; Vacaville, California; Westlake, Louisiana; Waxahachie, Texas; De Lisle, Mississippi; San Antonio, Texas.

LED manufacturer selects hydrogen purification system

Mykrolis Corporation shipped an Aeronex EGPS8 H Series gas purification system to the main production facility of Shanghai Blue Light Technology, an LED manufacturer, located in Shanghai, China. It will be installed on an MOVCD system for GaN-based LED fabrication.

"After careful evaluation of gas purification systems, we were impressed with the leading edge technology in the Aeronex Gas Purification System and its lower cost-of-ownership," said James Dong, vice president of Shanghai Blue Light. "We are confident this purification system will address the recurring challenges involved in the removal of harmful contaminants throughout the LED manufacturing process."

Epi for HBTs and transistor lasers

EpiWorks Inc, a manufacturer of compound semiconductor epitaxial wafers, has completed the implementation of a high throughput MOCVD reactor for 6" InGaP HBT fabrication. EpiWorks has been delivering production shipments using the new process since Q1 of 2004.

"After several quarters of production, EpiWorks is proud to announce the successful qualification of the Aixtron 2600G3 Planetary MOCVD reactor featuring the 7x6" configuration for industrial HBT production," said Dr Quesnell Hartmann, president of EpiWorks. "Together with Aixtron, we have developed a high throughput process with excellent uniformity, performance and reliability."

As part of the project, Aixtron retrofitted a standard reactor design with the 7x6" components, and EpiWorks developed a carbon-doped InGaP HBT process. The critical base layer of the HBT was optimized for quality and uniformity, along with the dc device parameters. The on-wafer base sheet resistance uniformity and the variation from wafer-to-wafer for 6" wafers is less than 3% for a production-qualified process. Wafers based on this process have been fully qualified by EpiWorks' customers and are currently used in the production of PAs for wireless handsets and WLAN components.

In other news, EpiWorks announced its role in the demonstration of the 'transistor laser' developed by researchers at the University of Illinois at Urbana-Champaign (UIUC). EpiWorks developed novel epitaxial wafer processes based on the designs provided by the research groups of Professor Nick Holonyak Jr and Professor Milton Feng.

"We have now demonstrated laser action in a light emitting transistor, creating an entirely new device technology for optoelectronics," said Prof. Feng. "Because it is a three-terminal device, the three-port transistor laser can potentially enable significantly higher-speed operation than two-terminal, diode laser technology. By developing a new MOCVD process over the past year, EpiWorks has been a key contributor in helping implement our ideas."

"One of the main hurdles was developing a new growth process because no one has ever really tried to grow a device like this" commented Dr Quesnell Hartmann.

IP agreement

Crystal IS Inc, a supplier of ultra-low defect density native aluminium nitride (AlN) single crystal substrates, completed a non-exclusive patent license agreement with Cree Inc. It covers a portfolio of patents involving crystalline aluminium nitride (AlN) manufacturing technology.

"Among other things, this extensive licensing arrangement will give us greater flexibility in expanding our AlN substrate manufacturing capability and represents an important milestone in securing our business strategy," said Leo Schowalter, Crystal IS co-founder, president and CEO. "Growth of our intellectual property portfolio is critically important for our future and significantly benefits from this agreement with Cree. Our past achievements, the recent closing of our first venture financing round, plus this key licensing agreement together position Crystal IS to better serve the advanced III-nitride device community over the long term.